

Jasper Creosoting Company

Jasper, Texas

EPA Region 6

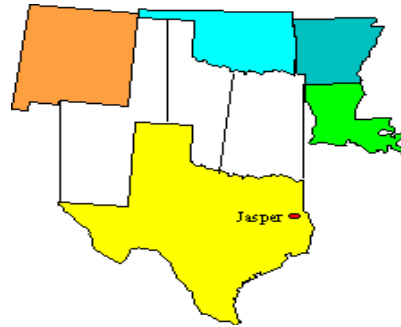
EPA ID# TXD008096240

Site ID: 0601735

State Congressional District: 2

Updated: April 28, 2005

Next Update: September, 2005



Site Description

Location: The Jasper Creosoting site is located at 601 N. McQueen Street in the City of Jasper, Jasper County, Texas. The geographic coordinates of the center of the site are approximately 93 degrees 58 minutes and 56 seconds west longitude and 30 degrees 56 minutes and 06 seconds north latitude.

Population: The approximate population of the City of Jasper is 7,000 people. Approximately 1,100 people live within a one mile radius of the site.

Setting: Jasper Creosoting is a former wood treatment facility which utilized coal-tar creosote and pentachlorophenol (PCP). The site occupies approximately 11 acres of a 21.22 acre tract and is bounded on the east by the Burlington Northern & Santa Fe (BNSF) Railway, on the west by N. McQueen Street, on the south by State Highway 776, and on the north by the inactive Louisiana Pacific Lumber Yard.

The area surrounding the site is both suburban and rural. Residences are located along both sides of McQueen street west of the site. There is one occupied residence adjacent to the property. There are also residences to the east of the wetland area and southeast across Highway 776.

Drainage from the site flows to a ditch along the eastern boundary of the site (east drainage ditch). The ditch flows southwest along the site until reaching a culvert that runs east beneath the BNSF railroad tracks into the unnamed wetland area (drainage inlet). The wetland area continues about 500 feet to another culvert beneath Highway 776 (drainage outlet) where surface water drains into a small ditch. The ditch flows southeast another 500 feet into Big Sandy Creek which is a tributary to B.A. Steinhagen Lake, approximately 12 miles west of the site.

Hydrology: The site is located on the outcrop of the Jasper Aquifer, a continuous 1,200-foot deep aquifer which serves as the primary source of drinking water for the Upper Jasper County Water Authority and supplies water to residential users. There are 27 drinking water wells located within four miles of the site. These wells range in depth from 22 feet to 640 feet BGS. All of these wells draw from the Jasper Aquifer. The nearest drinking water well to the site is a City of Jasper municipal water supply well located seven tenths of a mile southeast and hydraulically down-gradient from the site.

Based on the USDA soil survey classification map (USDA 1982), the site is located on soils of the Letney-Tehran association. The Letney-Tehran soil typically forms a dark, loamy, fine sand surface that is about 9 inches thick. This layer is underlain by 25 inches of very pale brown, loamy sand. The subsoil, extending to a depth of 70 inches, is a reddish-yellow sandy clay loam. This soil is well drained and has a medium water-holding capacity.

Wastes and Volumes

The principal contaminants at the site include creosote [semi-volatile organic compounds (SVOCs), primarily polynuclear aromatic hydrocarbons (PAHs)], pentachlorophenol (PCP) and dioxins/furans.

An on-site waste cell with a clay cap was constructed during the 1996 EPA removal action to store contaminated pond sediments and soil from the site. The in-situ volume of the contaminated waste and the soil cover layer within the waste cell limits was estimated to be approximately 14,270 cubic yards. The major chemicals of potential concern include PAHs, PCP, and dioxins/furans. These contaminants were detected in all subsurface samples from the visibly contaminated soil within the cell. The concentrations of total PAHs ranged from 395,400 µg/kg to 4,539,000 µg/kg. The PCP concentrations ranged from 59,000 µg/kg to 560,000 µg/kg. The toxicity equivalency quotient (TEQ) equivalent concentrations for dioxins/furans ranged from 1.95 µg/kg to 2.49 µg/kg. Low levels of metals and volatile organic compounds (VOCs) were also detected.

PAHs, PCP, and dioxins/furans were present in soil, surface water, and sediment samples collected from the wetland area. PAH contamination in the soil was clustered around the wetland drainage inlet. Total PAH concentrations in this area ranged from 9,070 µg/kg to 86,920 µg/kg. PCP was detected between the drainage inlet and outlet in the wetland area between 540 µg/kg and 8,900 µg/kg. Dioxins/furans were detected at all 14 surface soil locations. The highest concentrations ranged from a TEQ of 0.0515 µg/kg to 1.56 µg/kg between the drainage inlet and outlet in the wetland area.

Analysis of sediment samples collected from the drainage ditch between the wetland drainage outlet and Big Sandy Creek found low levels of PAHs, PCP and dioxin/furans (Total PAHs - 2,887 to 5,137 µg/kg, PCP - 1,090 to 1,630 µg/kg, and dioxins TEQ - 1.03 to 1.84 µg/kg). Neither PAHs nor PCP were detected in surface water samples except at the wetland drainage inlet; the PAH and PCP concentrations were 98 and 32 µg/L, respectively. The dioxins/furans concentrations for the surface water samples were low and ranged from TEQ - 0.00003 to 0.0001 µg/L.

Site Assessment and Ranking

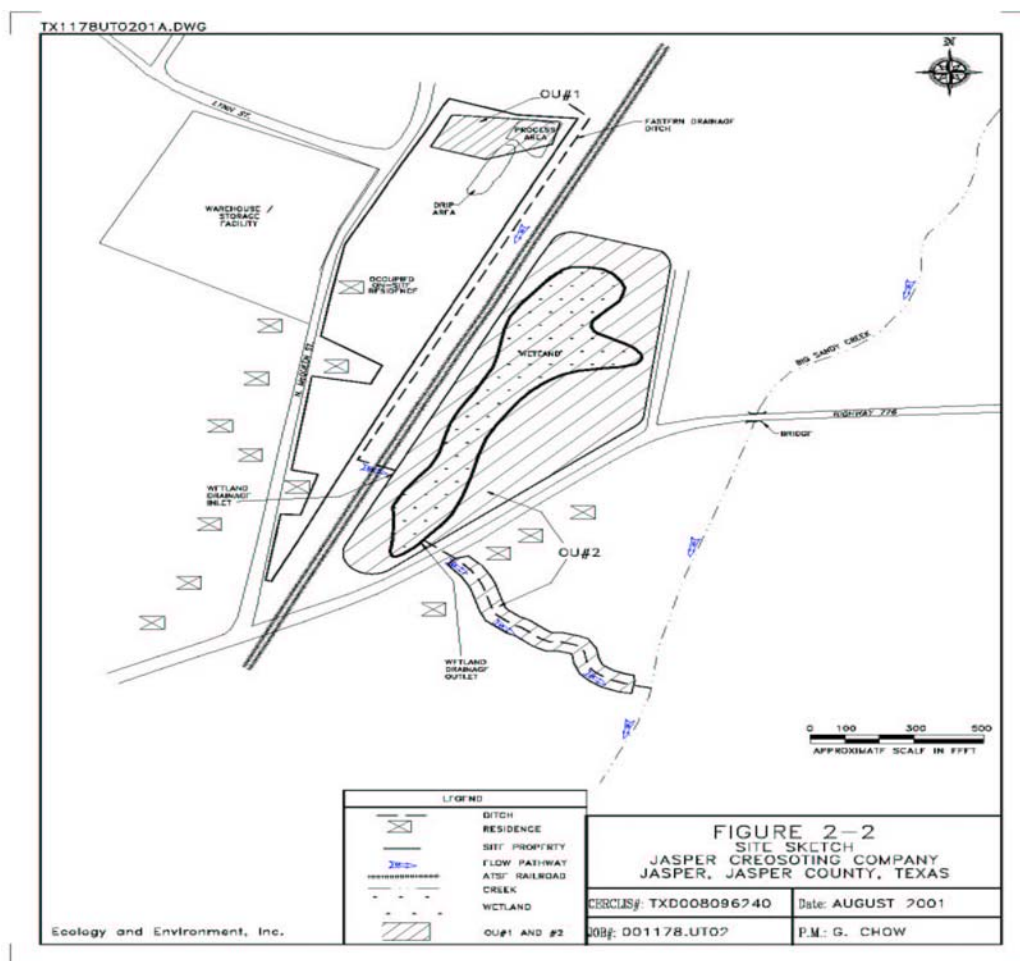
NPL LISTING HISTORY

Site HRS Score:50.0

Proposal Date: March 6, 1998

Final Date: July 28, 1998

Site Map



The Remediation Process

Site History

Numerous site investigations have occurred at the Jasper Creosoting Company:

1. In February 1983, during the time when wastewater from the on-site wastewater treatment operation was being discharged to the drainage ditch on the east side of the facility, the Texas Department of Water Resources (TDWR), now the Texas Commission on Environmental Quality (TCEQ), took surface water samples from

the drainage ditch and measured PCP at concentrations of up to 15,570 mg/L. Surface water samples collected in the ditch downstream from the wetland detected fluoranthene and PCP at 300 µg/L. Sediment samples from the wetland (near the drainage inlet) had total PAH concentration of 911,500 µg/kg and a PCP concentration of 210,000 µg/kg.

2. In March 1985, the Jasper Creosoting Company, under the direction of the TDWR, analyzed core samples from the wetland area near the drainage inlet. In the core samples, a 0.2 to 2.5 feet thick layer of creosote product was perched on stratigraphic migration barriers (peat, clay, and silt) at the 4 to 7 foot depth range.
3. In July 1985, the Texas Water Commission (TWC), now the Texas Commission on Environmental Quality (TCEQ) collected three surface water samples. Two were obtained from the east drainage ditch, and one was collected from a spill in an area to the east of the former processing area. The highest concentrations of naphthalene detected in the ditch and in the spill sample were 3,200 µg/L and 8,000,000 µg/L, respectively.
4. In April 1986, the TWC collected surface water samples from the east drainage ditch. The total PAH concentration detected was 914,000 µg/L. Also, 1,1'-Biphenyl (42,000 µg/L), dibenzofuran (83,000 µg/L), and dibenzothiophene (17,000 µg/L) were detected.
5. In 1993, EPA conducted an Expanded Site Inspection (ESI). Samples were collected to evaluate the soil, sediment, surface water and ground water pathways. These samples documented significant on-site contamination of PAHs and dioxins/furans. PAHs and dioxins/furans were also detected in the east drainage ditch and at the wetland drainage inlet and outlet. The dioxins/furans toxicity equivalency quotient (TEQ) concentration was reported as 0.21 µg/kg at the wetland drainage inlet. PAHs were detected in all of the samples with concentrations ranging from 191,000 µg/kg at the wetland drainage inlet to 67,400 µg/kg at the outlet.
6. On December 14, 1995, as part of the Hazard Ranking System (HRS) evaluation, the TNRCC collected samples from areas on and off-site. The HRS identified two sources of on-site contamination sources: 1) several creosote tanks in the process area; and, 2) contaminated soils in the process/treatment and storage areas.
7. In 2000, the Texas Department of Health (TDH) and the Agency for Toxic Substances and Disease Registry (ATSDR) conducted a Public Health Assessment (PHA) for the site. The PHA concluded that exposure to contaminants in soil from the site is an Indeterminate Public Health Hazard. This determination was made based on data gaps, including insufficient information regarding the integrity of the temporary waste cell (OU1) and its ability to contain onsite wastes. Additionally, the PHA stated that there was insufficient information to determine the potential threats to trespassers at the site.
8. During a 2001 Engineering Evaluation/Cost Analysis (EE/CA), PAHs and PCP,

and dioxins/furans were detected in soil, sediment, and surface water samples collected from a drainage ditch leading from an off-site wetland area as a result of transportation from the site.

On April 8, 1996, the EPA initiated a time-critical removal action to remove the existing buildings/structures, above ground tanks, other facility equipment, and contaminated soil. All above ground tanks, treatment vessels, containers, and process buildings were dismantled. Scrap metals were cleaned and sent off-site for salvage. Weathered scrap creosote wood was disposed of off-site. Heavily contaminated soils were excavated and, along with liquid wastes from tanks and containers, were sent off-site for disposal. Other less contaminated soils excavated from the site were placed in an on-site waste cell.

From November 1999 to January 2000, EPA conducted a second removal action to address surface erosion on the on-site waste cell. Since construction of the on-site waste cell during the 1996 removal action, the waste cell had deteriorated and eroded. The removal action included site stabilization; removal of some littered, creosote-soaked lumber; and removal and off-site disposal of some free-flowing liquid from an exposed pipe leading out of the capped cell.

Health Considerations

The chemicals of potential concern for the site include SVOCs/PAHs, phenolic compounds (i.e. PCP), and dioxins/furans. PAHs and phenolic compounds are the primary components of coal tar creosote, while dioxins/furans are contaminants of chlorinated phenols, in particular PCP. PAHs are carcinogens, capable of causing cancer at the point of contact i.e., on the skin, and are known to adversely impact the skin upon dermal exposure. Also, many non-carcinogenic adverse effects are known to occur as a result of exposure to creosote, including lung, liver, kidney, thymus, adrenal glands, colon, and skin effects.

PCP is known to affect the liver, kidneys, blood, lungs, nervous system, immune system, and gastrointestinal tract. PCP vapors are irritating to the skin, eyes, and mouth. 2-Methylphenol and 3-methylphenol are known to cause a decrease in body weight and are neurotoxins. These two phenolics are also possible carcinogens. Some of the effects from exposure to dioxin and dioxin-like compounds are: cancer, dermal, liver, and thyroid effects, on-set of diabetes, cardiovascular, respiratory, immunologic, neurologic, and reproductive effects.

Other Environmental Risks

PAHs, PCP and dioxin/furans in the soil/sediment of the wetland area have the potential to adversely impact aquatic life, including benthic invertebrates, amphibians, reptiles, fish, and algae, currently and in the future. Terrestrial wildlife, including birds and mammals that use the wetland area as a source of drinking water and food, could be exposed to contaminants.

Record of Decision

No ROD has been signed for the site

Community Involvement

Community Relations Plan: February 2000
Site Repository: Jasper Public Library
175 E. Water Street
Jasper, TX
409-384-3791

Technical Assistance Grant

Grant Award: none

Contacts

EPA Remedial Project Manager:	Bob Sullivan	214-665-2223 or 1-800-533-3508
EPA On-Scene Coordinator	Rita Engblom	214-665-8341 or 1-800-533-3508
Site Attorney:	Ed Quinones	214-665-8035 or 1-800-533-3508
State Contact:	Bob Wucher	512-239-2494 or 1-800-633-9363
EPA Regional Public Liaison	Arnold Ondarza	303-312-6777

Present Status and Issues

- EPA conducted a removal action in 1996 to remove existing tanks, structures and equipment, remove liquid waste for off-site disposal, drain the on-site impoundments, stabilize the remaining sludge, and consolidate the sludge and contaminated soil into an on-site waste cell.
- EPA conducted a removal action in 1999 to address surface erosion on the on-site waste cell.
- EPA conducted an EE/CA in 2001 to investigate contamination in the drainage ditch, wetland area, the drainage ditch between the wetland drainage outlet and Big Sandy Creek and the on-site waste cell.
- An Action Memorandum requesting approval to conduct a Non-Time Critical (NTC) Removal Action at the site was signed on September 25, 2001. The objective of the proposed removal action is to reduce or eliminate principal threat wastes at the site, thereby minimizing or eliminating risks to human health and the environment from potential exposure to those wastes. The areas to be addressed in this removal action include: 1) the on-site temporary waste cell; and, 2) the unnamed wetland area east of the site.
- The designs for the Non-Time Critical Removal Action are being finalized in July 2003.
- The objective of the selected NTC removal action is thermal desorption of contaminated soils within and adjacent to the waste cell, and fencing of the wetland area.

- A Removal Action Contract has been signed by EPA and the State of Texas.
- EPA continues to monitor the site to ensure that there is no immediate threat to human health or the environment pending the start of long-term cleanup work.
- The EPA is currently conducting a Remedial Investigation/Feasibility Study (RI/FS) and baseline risk assessment for the site. The primary focus of the RI/FS is to determine the extent of contamination in soil and ground water and to propose actions for mitigation.
- To date, EPA has spent approximately \$1.8 million for removal action and design work at this site.
- EPA's actions taken to date have considerably lessened the potential for human health or environmental exposure. EPA has determined that this site does not pose an immediate threat to human health, and will continue to monitor this site for changes that may trigger additional action. EPA will consider funding for this site in Fiscal Year 2006.

Benefits

The clean-up of the contamination present at the Jasper Creosoting Company Superfund site will ensure the protection of human health and the environment.